UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

Office Action Summary	Application No.	Applicant(s)
	10/611,304	FISCHER ET AL.
	Examiner	Art Unit
	Mon Cheri S. Davenport	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 July 2007</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-20</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1.   **Claims 1-20** rejected under 35 U.S.C. 102(e) as being anticipated by Raleigh et al. (US

patent Number 6,463, 096).

Regarding **Claim 1** Raleigh et al. discloses a method comprising:

storing a description of a first frame wherein said description comprises *(see column 6, lines 12-16, data extracted from the received MAC packets included MAP);*

(1) a frame length *(some of the extracted data includes the MA, see column 6, line 14)*; and

(2) a first transmission rate(data rates) *(see column 6, lines 12-16, data extracted from the received MAC packets included MAP which carries instructions assigning transmission center frequencies, data rates and frame times.);*

receiving a first portion (see figure 4a, section 402, RA frame) of said first frame(see figure 4a, Frame A, B, C, D or E) wherein the length of said first portion is less than said frame length and is based on said first transmission rate(2Mbps)*(see column 6, lines 42-44, a frame is here is understood to be a unit of time for which access to the common transmission medium may be assigned to one or more CPEs, see fig. 4a, Frame a is divided into 15 parts each part is less than the total frame length, frame A makes up the sum of all 15 portions);*

queuing said first portion of said first frame(*see column 6, lines 28-30, processor receives packets from the IP router that are to directed to the hub and queues them);*

transmitting said first portion of said first frame at said first transmission rate into a shared-communications channel(*see column 6, lines 44-46, a request access (RA) frame is where individual CPEs may request to the common transmission medium, see column 6, line 63-64, in an A frame 15 CPEs are scheduled to transmit each 2Mbps, common transmission channel reads on shared communication channel)* ; and

receiving a second portion(see figure 4a, section CPE1) of said first frame after said transmission of said first portion has started *(see column 6, lines 44-46, a request access (RA) frame is where individual CPEs may request to the common transmission medium, see column 6, line 63-64, in an A frame 15 CPEs are scheduled to transmit each 2 Mbps).*

Regarding **claim 2** Raleigh et al. discloses everything claimed as applied above (see claim 1). In addition the method includes:

wherein said description further comprises a second transmission rate *(see col 6, lines 58-60, CPE may transmit upstream at a given frame at either a 2Mbps, a 30Mbps data rate)* and at least one form of modulation *(see column 6, lines 46-48, any known MAC scheme may be*

used to control access to the medium in this frame such as CSMA, CSMA/CD etc. When RA frame includes an OFDM burst).

Regarding **claim 3** Raleigh et al. discloses everything claimed as applied above (see claim 2). In addition the method includes:

wherein said at least one form of modulation comprises orthogonal frequency division multiplexing*(see column 6, lines 46-48, any known MAC scheme may be used to control access to the medium in this frame such as CSMA, CSMA/CD etc. When RA frame includes an OFDM burst).*

Regarding **claim 4** Raleigh et al. discloses everything claimed as applied above (see claim 1). In addition the method includes:

further comprising queuing said second portion of said first frame wherein the length of said second portion is less than said frame length, and is based on said first transmission rate and the time required to receive said second portion *(see column 6, lines 28-30, processor receives packets from the IP router that are to directed to the hub and queues them).*

Regarding **claim 5** Raleigh et al. an apparatus comprising(see figure 3):

an interface controller for:

(1) receiving a first portion (see figure 4a, section 402, RA frame) of a first frame (see figure 4a, Frame A, B, C, D or E) *see figure 3, section 318, MAC processor, see col. 6, line 9-16, some of the data is extracted including the MAP))* ; and

(2) receiving a second portion (see figure 4a, section CPE1) of a first frame *(see figure 3, section 324, transmit priority processor, see col. 6, lines 28-29, processor receives packets from the IP router that are to be directed to the hub)* ;

a memory for(see figure 3):

(1) storing a description of said first frame wherein said description comprises a frame length and a first transmission rate*(see figure 3, section 318, MAC processor, see column 6, lines 12-16, data extracted from the received MAC packets included MAP which carries instructions assigning transmission center frequencies, data rates and frame times.)*; and

(2) queuing said first portion(see col. 6, lines 63-64, A frame, 15 parts are scheduled to transmit) of said first frame wherein the size of said queue is based on said first transmission rate and the time required to receive said first portion *(see figure 4a, see col. 6, lines 31-38, transmit priority processor indicates when data is to be transmitted and the amount of data to be transmitted to a queue monitor, in response the queue monitor generates access request, depicts a MAP frame with data rate and center frequency assignments, see col. 6);* and

a transmitter for transmitting said first portion of said first frame at said first transmission rate into a shared-communications channel *(see figure 3, section 314, radio converter).*

Regarding **claim 6** Raleigh et al. discloses everything claimed as applied above (see claim 5). In addition the apparatus includes:

wherein said description further comprises a second transmission rate*(see col 6, lines 58-60, CPE may transmit upstream at a given frame at either a 2Mbps, a 30Mbps data rate)* and at least one form of modulation*(see col. 6, line 46-48, ant known MAC scheme may be used such as CSMA, When RA frame includes OFDM)*

Regarding **claim 7** Raleigh et al. discloses everything claimed as applied above (see claim 6). In addition the apparatus includes:

wherein said at least one form of modulation comprises orthogonal frequency division multiplexing *(see col 6, line 46-48, ant known MAC scheme may be used such as CSMA, When RA frame includes OFDM)* .

Regarding **claim 8** Raleigh et al. discloses everything claimed as applied above (see claim 5). In addition the apparatus includes:

wherein said memory is also for queuing said second portion of said first frame wherein the length of said second portion is less than said frame length, and is based on said first transmission rate and the time required to receive said second portion *(see col 6, lines 41-46, a frame is understood to be a unit of time for which access to the common transmission medium may be assigned to one or more CPEs, see figure 4a)*.

Regarding **claim 9** Raleigh et al. discloses everything claimed as applied above (see claim 5). In addition the apparatus includes:

wherein said transmitter operates in accordance with the IEEE 802.11 air interface protocol *(see col 2, lines 63-65, the system and method is applicable to both wired and wireless transmission media)*.

Regarding **Claim 10** Raleigh et al. discloses a method comprising:

storing a first description wherein said first description comprises *(see column 6, lines 12-16, data extracted from the received MAC packets included MAP)* :

1) a first frame length *(some of the extracted data includes the MA, see column 6, line 14)*; and

(2) a first transmission rate *(see column 6, lines 12-16, data extracted from the received MAC packets included MAP which carries instructions assigning transmission center frequencies, data rates and frame times.)*;

transmitting a queued portion of a first frame at said first transmission rate into a shared-communications channel (*see column 6, lines 44-46, a request access (RA) frame is where individual CPEs may request to the common transmission medium, see column 6, line 63-64, in a A frame 15 CPEs are scheduled to transmit each 2Mbps)*;

removing (transmitting) said queued portion of said first frame wherein said removal is based on said first frame length(*see column 6, lines 44-46, a request access (RA) frame is where individual CPEs may request to the common transmission medium, see column 6, line 63-64, in a A frame 15 CPEs are scheduled to transmit each 2Mbps)*;

storing a second description wherein said second description comprises *(see column 6, lines 12-16, data extracted from the received MAC packets included MAP):*

(1) a second frame length*(some of the extracted data includes the MA, see column 6, line 14)*; and

(2) a second transmission rate (data rates*) (see column 6, lines 12-16, data extracted from the received MAC packets included MAP which carries instructions assigning transmission center frequencies, data rates and frame times.) (see col 6, lines 58-60, CPE may transmit upstream at a given frame at either a 2Mbps, a 30Mbps data rate);*

queuing a first portion of a second frame wherein the length of said first portion is less than said second frame length and is based on said first transmission rate *see column 6, lines 28-30, processor receives packets from the IP router that are to directed to the hub and queues them, see fig. 4a, Frame a is divided into 15 parts each part is less than the total frame length, frame A makes up the sum of all 15 portions, see also frame B and D));* and

transmitting said first portion of said second frame at said second transmission rate into said shared-communications channel(*see column 6, lines 44-46, a request access (RA) frame is where individual CPEs may request to the common transmission medium, see column 6, line 63-64, in a A frame 15 CPEs are scheduled to transmit each 2Mbps)*.

Regarding **claim 11** Raleigh et al. discloses everything claimed as applied above (see claim 10). In addition the method includes:

wherein said first transmission rate and said second transmission rate are different *(see col 6, lines 58-60, CPE may transmit upstream at a given frame at either a 2Mbps, a 30Mbps data rate)*.

Regarding **claim 12** Raleigh et al. discloses everything claimed as applied above (see claim 10). In addition the method includes:

further comprising queuing a second portion of said second frame wherein the length of said second portion is less than said second frame length and is based on said second transmission rate *(see column 7, lines 4-7, in a E frame a single CPE9 occupies the entire upstream spectrum. Thus may CPEs may simultaneously transmit as low data rate source or one CPE may transmit at a high data rate)*.

Regarding **claim 13** Raleigh et al. discloses an apparatus comprising (see figure 3):

a memory for:

(1) storing a first description wherein said first description comprises a first frame length and a first transmission rate*(see figure 3, section 318, MAC processor, see column 6, lines 12-16, data extracted from the received MAC packets included MAP which carries instructions assigning transmission center frequencies, data rates and frame times.)*;

(2) storing a second description wherein said second description comprises a second frame length and a second transmission rate*(see figure 3, section 318, MAC processor, see column 6, lines 12-16, data extracted from the received MAC packets included MAP which carries instructions assigning transmission center frequencies, data rates and frame times.)*; and

(3) queuing a first portion of a second frame wherein the length of said first portion is less than said second frame length and is based on said first transmission rate *(see figure 4a, see col 6, lines 36-38, depicts a MAP frame with data rate and center frequency assignments, , see fig. 4a, Frame a is divided into 15 parts each part is less than the total frame length, frame A makes up the sum of all 15 portions, see also frame B and D))*;

a transmitter for *(see figure 3, section 314, radio converter)*:

(1) transmitting a queued portion of a first frame at said first transmission rate into a shared-communications channel*(see column 6, lines 44-46, a request access (RA) frame is where individual CPEs may request to the common transmission medium, see column 6, line 63-64, in an A frame 15 CPEs are scheduled to transmit each 2Mbps)*; and

(2) transmitting said first portion of said second frame at said second transmission rate into said shared-communications channel*(see column 7, lines 4-7, in a E frame a single CPE9 occupies the entire upstream spectrum. Thus may CPEs may simultaneously transmit as low data rate source or one CPE may transmit at a high data rate)*; and

a processor for removing(transmitting) said first description and said queued portion of said first frame wherein said removal is based on said first frame length *(see column 6, lines 44-46, a request access (RA) frame is where individual CPEs may request to the common transmission medium, see column 6, line 63-64, in a A frame 15 CPEs are scheduled to transmit each 2Mbps)*.

Regarding **claim 14** Raleigh et al. discloses everything claimed as applied above (see claim 13). In addition the apparatus includes:

wherein said first transmission rate and said second transmission rate are different *(see col 6, lines 58-60, CPE may transmit upstream at a given frame at either a 2Mbps, a 30Mbps data rate)*.

Regarding **claim 15** Raleigh et al. discloses everything claimed as applied above (see claim 13). In addition the apparatus includes:

wherein said memory is also for queuing a second portion of said second frame wherein the length of said second portion is less than said second frame length *(see column 6, lines 28-*

30, processor receives packets from the IP router that are to directed to the hub and queues them) and is based on said second transmission rate *(see column 7, lines 4-7, in a E frame a single CPE9 occupies the entire upstream spectrum. Thus may CPEs may simultaneously transmit as low data rate source or one CPE may transmit at a high data rate).*

Regarding **claim 16** Raleigh et al. discloses everything claimed as applied above (see claim 13). In addition the apparatus includes:

wherein said transmitter operates in accordance with the IEEE 802.11 air interface protocol *(see col 2, lines 63-65, the system and method is applicable to both wired and wireless transmission media).*

Regarding **claim 17** Raleigh et al. discloses a method comprising:

storing a first description of a first frame wherein said first description comprises *(see column 6, lines 12-16, data extracted from the received MAC packets included MAP):*

(1) a first frame length*(some of the extracted data includes the MA, see column 6, line 14);*

(2) a first transmission rate(data rates) *(see column 6, lines 12-16, data extracted from the received MAC packets included MAP which carries instructions assigning transmission center frequencies, data rates and frame times.);* and

(3) a first class of service with which said first frame is associated*(see column 6, lines 12-16, data extracted from the received MAC packets included MAP which carries instructions assigning transmission center frequencies, data rates and frame times, transmission center frequencies, data rates and frame times, reads on first class of service .);*

queuing a first portion of said first frame in a first queue *(see column 6, lines 28-30, processor receives packets from the IP router that are to directed to the hub and queues them)* wherein said first portion of said first frame comprises m octets, wherein m is a positive integer, and wherein the value of m is based on said first transmission rate *(see column 6, lines 44-46, a request access (RA) frame is where individual CPEs may request to the common transmission medium, see column 6, line 63-64, in an A frame 15 CPEs are scheduled to transmit each 2 Mbps, see column 6, lines 12-16, data extracted from the received MAC packets which are in the form of IP packets, made up of bytes, which reads on m octets, see also col. 2, lines 12-13, frame time to transmit 64-bytes voice packet or 1000 byte data packet);*

transmitting said first portion of said first frame at said first transmission rate into a shared-communications channel*(see column 6, lines 44-46, a request access (RA) frame is where individual CPEs may request to the common transmission medium, see column 6, line 63-64, in an A frame 15 CPEs are scheduled to transmit each 2 Mbps, see figure 4a);*

receiving a second portion of said first frame after said transmission of said first portion has started*(see column 6, lines 44-46, a request access (RA) frame is where individual CPEs*

may request to the common transmission medium, see column 6, line 63-64, in an A frame 15 CPEs are scheduled to transmit each 2 Mbps);

storing a second description of a second frame after said storing of said first description wherein said second description comprises*(see column 6, lines 12-16, data extracted from the received MAC packets included MAP)*:

(1) a second frame length *(some of the extracted data includes the MA, see column 6, line 14)*;

(2) a second transmission rate (data rates) *(see column 6, lines 12-16, data extracted from the received MAC packets included MAP which carries instructions assigning transmission center frequencies, data rates and frame times.) (see col 6, lines 58-60, CPE may transmit upstream at a given frame at either a 2Mbps, a 30Mbps data rate)* ; and

(3) said second class of service with which said second frame is associated*(see column 6, lines 12-16, data extracted from the received MAC packets included MAP which carries instructions assigning transmission center frequencies, data rates and frame times.)*;

queuing a portion of said second frame(*see column 6, lines 28-30, processor receives packets from the IP router that are to directed to the hub and queues them)* wherein said portion of said second frame comprises n octets, wherein n is a positive integer, and wherein the value of n is based on said second transmission rate*(see column 6, lines 44-46, a request access (RA) frame is where individual CPEs may request to the common transmission medium, see column 6, line 63-64, in an A frame 15 CPEs are scheduled to transmit each 2 Mbps)*; and

transmitting said portion of said second frame at said second transmission rate*(see col 6, lines 58-60, CPE may transmit upstream at a given frame at either a 2Mbps, a 30Mbps data rate)* into said shared-communications channel*(see column 6, lines 44-46, a request access (RA) frame is where individual CPEs may request to the common transmission medium, see column 6, line 63-64, in an A frame 15 CPEs are scheduled to transmit each 2 Mbps, see figure 4a)*.

Regarding **claim 18** Raleigh et al. discloses everything claimed as applied above (see claim 17). In addition the method includes:

wherein said first transmission rate and said second transmission rate are different *(see col 6, lines 58-60, CPE may transmit upstream at a given frame at either a 2Mbps, a 30Mbps data rate)*.

Regarding **claim 19** Raleigh et al. discloses everything claimed as applied above (see claim 17). In addition the method includes:

further comprising queuing a second portion of said second frame wherein the length of said second portion is less than said second frame length and is based on said second transmission rate *(see col 6, lines 58-60, CPE may transmit upstream at a given frame at either a 2Mbps, a 30Mbps data rate)*.

Regarding **claim 20** Raleigh et al. discloses everything claimed as applied above (see claim 17). In addition the method includes:

wherein said transmitting is performed in accordance with the IEEE 802.11 air interface protocol *(see col 2, lines 63-65, the system and method is applicable to both wired and wireless transmission media).*

Response to Arguments

2.   Applicant's arguments filed July 25, 2007 have been fully considered but they are not persuasive.

In the remarks on pg. 7 of the amendment, the applicant contends that Raleigh et al. does not teach or suggest "length of said portion is less than said frame length" and that CPE are not portions of the frame.

Examiner respectfully disagrees Raleigh et al. teaches as shown in figure 4a, that frame A, (one full frame), is made of 15 parts labeled CPE this reads on portions of a frame as written in the claim. See rejection of claim 1.

In the remarks on pg. 8 of the amendment, the applicant contends that Raleigh et al. does not teach or suggest "into a shared communication channel".

Examiner respectfully disagrees Raleigh et al. teaches a common transmission channel which reads on shared communication channel.

In the remarks on pg. 8 of the amendment, the applicant contends that Raleigh et al. does not teach or suggest, "size of said queue is based on said first transmission rate and the time required to receive said first portion."

Examiner respectfully disagrees Raleigh et al. teaches that the transmit priority processor indicates when data is to be transmitted and the amount of data to be transmitted to a queue

monitor, in response the queue monitor generates access, priority is based on rate and amount, the rate and amount of data is the time required to receive. See rejection of claim 5.

In the remarks on pg. 9 of the amendment, the applicant contends that Raleigh et al. does not teach or suggest, "wherein the length of said first portion is less than said second frame length."

Examiner respectfully disagrees Raleigh et al. teaches as shown in figure 4a, that frame A, (one full frame), is made of 15 parts labeled CPE this reads on portions of a frame as written in the claim. See rejection of claim 10.

In the remarks on pg. 10 of the amendment, the applicant contends that Raleigh et al. does not teach or suggest, "wherein the length of said first portion is less than said second frame length and is based on said first transmission rate."

Examiner respectfully disagrees Raleigh et al. teaches as shown in figure 4a, that frame A, (one full frame), is made of 15 parts labeled CPE this reads on portions of a frame as written in the claim. And in an A frame, 15 CPEs are scheduled to transmit each 2Mbps. See rejection of claim of claim 13.

In the remarks on pg. 11 of the amendment, the applicant contends that Raleigh et al. does not teach or suggest, "first class of service" and " wherein said first portion of said first frame comprises m octets."

Examiner respectfully disagrees Raleigh et al. teaches transmission center frequencies, data rates and frame times, which reads on first class of service. And, Raleigh et al invention is address-transmitting bytes of data and voice packets, which read on the frame comprises m octets (bytes). See rejection of claim 17.

Conclusion

3.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Mon Cheri S. Davenport whose telephone number is 571-270-

1803. The examiner can normally be reached on Monday - Friday 8:00 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

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like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MD/md
October 1, 2007

Seema S. Rao
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SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600